

WHAT IS CLAIMED IS:

- 1 1. A method for remotely communicating with a Broadband modem, comprising:
 - 2 detecting a communication error on a Broadband modem;
 - 3 establishing a Plain Old Telephone System (POTS) connection
 - 4 between said Broadband modem and a remote server;
 - 5 communicating with said remote server via said POTS connection
 - 6 using Dual-Tone Multi-Frequency (DTMF) tones.
- 1 2. The method of claim 1, wherein said detecting comprises detecting that a
2 Broadband circuit cannot be provisioned over a twisted pair connected to said
3 Broadband modem.
- 1 3. The method of claim 1, wherein said communicating comprises:
 - 2 transmitting information associated with said communication error to
3 said remote server via said POTS connection using DTMF tones; and
 - 4 receiving a diagnosis from said remote server via said POTS
5 connection in DTMF tones.
- 1 4. The method of claim 3, further comprising transmitting said diagnosis to a
2 client computer.
- 1 5. The method of claim 1, wherein said transmitting comprises communicating
2 diagnosis information in the form of a Web-page from a Web-server on the
3 Broadband modem to a client computer's Web-browser.
- 1 6. The method of claim 1, wherein said detecting step comprises detecting that a
2 Digital Subscriber Line (DSL) tone does not exist on a twisted pair connected
3 to said Broadband modem.

1 7. The method of claim 1, wherein said detecting step comprises determining that
2 said Broadband modem cannot synchronize with a Digital Subscriber Line
3 Access Multiplexor (DSLAM).

1 8. The method of claim 1, wherein said detecting step comprises determining that
2 a Permanent Virtual Circuit (PVC) cannot be established from said Broadband
3 modem.

1 9. The method of claim 1, further comprising, before said detecting step, the step
2 of detecting POTS service.

1 10. The method of claim 1, further comprising acquiring an identifier from a user
2 of said Broadband modem.

1 11. The method of claim 1, further comprising, before said establishing step, the
2 step of ascertaining that new information associated with said communication
3 error has not yet been sent to said remote server.

1 12. The method of claim 1, further comprising, before said establishing step, the
2 step of ascertaining that a Broadband circuit has not been provisioned within a
3 predetermined time.

1 13. The method of claim 1, wherein said communicating comprises sending
2 information associated with communication error to said diagnostic server,
3 where said information is selected from a group consisting of: a serial number
4 of said Broadband modem, a hardware version of said Broadband modem, a
5 software version of said Broadband modem, an identifier acquired from a user
6 of said Broadband modem, Digital Subscriber Line (DSL) tone information,
7 Digital Subscriber Line Access Multiplexor (DSLAM) connectivity
8 information, Virtual Circuit connectivity information, Internet Protocol
9 connectivity information, and any combination of the aforementioned.

1 15. A system for remotely diagnosing a Broadband modem, comprising:

2 a telephone company central office coupled to both a data network and

3 a Public Switched Telephone Network (PSTN);

4 a Broadband modem coupled to said telephone company central office

5 via a telephone line, where said Broadband modem is configured to

6 communicate data and Dual-Tone Multi-Frequency (DTMF) tones over said

7 telephone line; and

8 a remote server coupled to said PSTN, where said remote server is

9 configured to communicate with said Broadband modem using DTMF tones.

1 16. The system of claim 15, wherein said telephone company central office
2 comprises a Digital Subscriber Line Access Multiplexor (DSLAM) coupled to
3 the data network

1 18. The system of claim 15, wherein said Broadband modem comprises the
2 following components:
3 a Central Processing Unit (CPU);
4 communications circuitry;

5 a DTMF transceiver;
6 a memory, comprising:
7 DTMF protocol procedures
8 remote procedures; and
9 Digital Subscriber Line (DSL) service configuration
10 procedures; and
11 a bus connecting the aforesaid components.

1 19. The system of claim 15, wherein said remote procedures comprise:

2 Plain Old Telephone System (POTS) dial-tone detection procedures;

3 and

Digital Subscriber Line (DSL) tone detection procedures.

1 20. The system of claim 18, wherein said DSL service configuration procedures
2 comprise:

5 Permanent Virtual Circuit (PVC) connectivity procedures; and

6 Internet Protocol (IP) connectivity procedures.

1 21. The system of claim 15, wherein said Broadband modem comprises a Web-
2 server and Web-pages.

1 22. The system of claim 15, wherein said remote server comprises:

2 a Central Processing Unit (CPU);

3 communications circuitry;

4 a DTMF transceiver;

5 a memory, comprising:

6 DTMF protocol procedures; and

7 remote procedures; and

a bus connecting the aforesaid components.

1 23. The system of claim 15, wherein said remote procedures comprise Automatic
2 Number Identification (ANI) detection procedures.

1 24. The system of claim 15, wherein said memory further comprises a user
2 database containing previous remote session data.

1 25. The system of claim 15, wherein said memory further comprises a user details.

1 26. A Broadband modem comprising the following components:

2 a Central Processing Unit (CPU);
3 communications circuitry;
4 a DTMF transceiver;
5 a memory, comprising:
6 Broadband communication procedures
7 DTMF transceiver procedures; and
8 a DTMF protocol; and
9 a bus connecting the aforesaid components.

1 27. The system of claim 26, wherein said memory further comprises:

2 diagnostic procedures; and
3 Digital Subscriber Line (DSL) service configuration procedures.

1 28. The system of claim 27, wherein said diagnostic procedures comprise Plain
2 Old Telephone System (POTS) dial-tone detection procedures.

1 29. The system of claim 27, wherein said diagnostic procedures comprise DSL-
2 signal detection procedures.

1 30. The system of claim 27, wherein said configuration procedures comprise:
2 Digital Subscriber Line Access Multiplexor (DSLAM) synchronization
3 procedures;

4 Permanent Virtual Circuit (PVC) connectivity procedures; and
5 Internet Protocol (IP) connectivity procedures.

1 31. The system of claim 26, wherein said Broadband modem comprises a Web-
2 server and Web-pages.